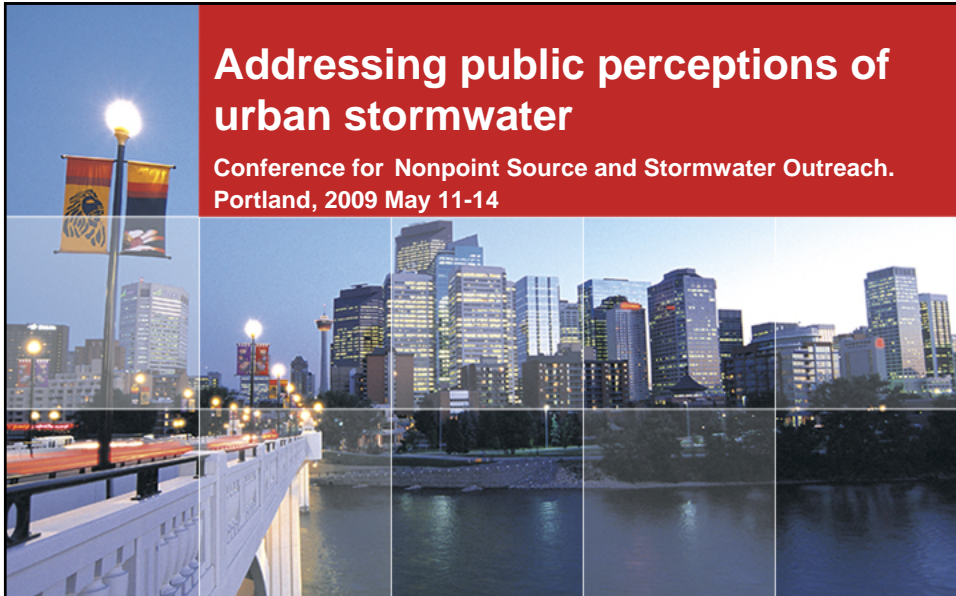


Addressing public perceptions of urban stormwater

Conference for Nonpoint Source and Stormwater Outreach.
Portland, 2009 May 11-14



www.calgary.ca call 3-1-1



Overview

- Research on public familiarity with stormwater
- Education and outreach programs
- Research on perceptions of Low Impact Development (LID)
- Streetscape project
- Key Learnings

Next step – the Bow River.

Only rain should go down the drain.

Most water that washes into storm drains goes straight into the river – untreated. Join your fellow Calgarians to protect our rivers, fish and our source of drinking water.

Actions you can take that make a difference:

- ✓ Use a broom and dustpan to clean your sidewalk and driveway, instead of hosing debris down the storm drains.
- ✓ Keep polluting materials like motor oil and lawn chemicals out of the storm drains.
- ✓ Wash your vehicle at the car wash to keep soap out of the storm drains.

Learn more at calgary.ca/stormwater or call 3-1-1.



Preventing what's precious.
Love the River.

calgary.ca/stormwater | call 3-1-1



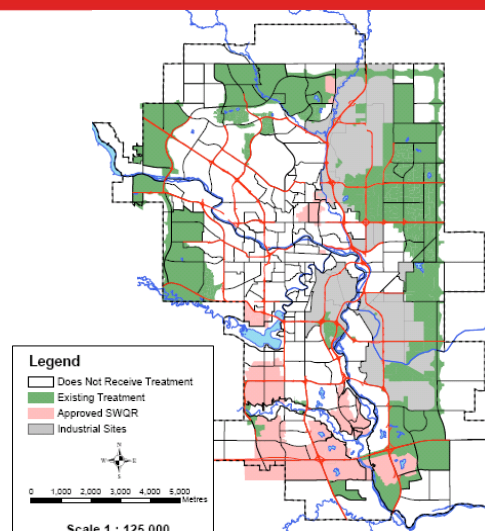
Calgary...

- Rapid growth
 - 30% in last 10 years
 - 1,042,892 people in 2008
 - 1,000 acres (400 ha) new residential each year
- Increasing rates and volumes of stormwater discharge impacting health of watershed



...Stormwater system

- Separate stormwater and wastewater systems
- Stormwater Management Strategy (2005)
- Funded through a drainage charge
- The goal of Strategy is to reduce runoff and sediment loadings, ensure our regulatory compliance and protect the health of the Bow River



Initial Research: familiarity with stormwater & watershed (2006)

◆ They define the term stormwater as...:

- "Rain run-off"
- "It's water that lurks around the curbs after a long storm."
- "Leftover water."
- "Water that goes down the drain when it rains or you use a sprinkler."
- "Any water, from washing your car or a storm, that goes down the drain."

◆ Some participants are confused and cannot articulate a definition for watershed.

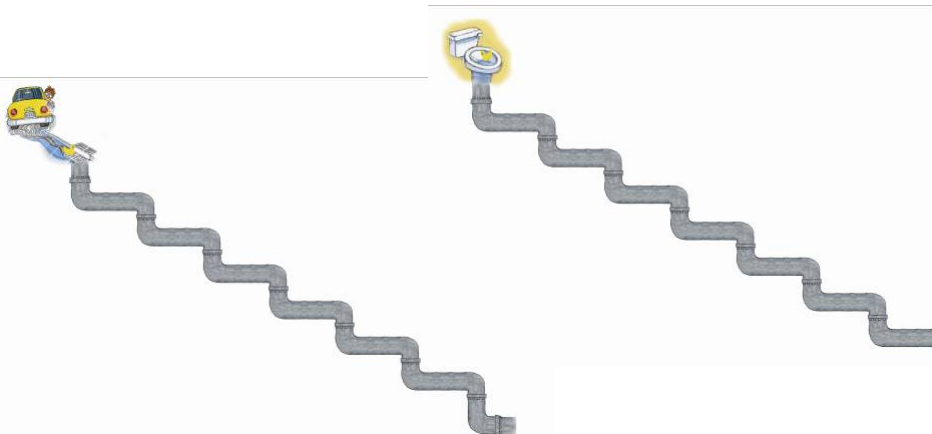
- "I have no idea what it is."
- "Oh goodness, I don't know."

◆ Only a few participants fully understood the term.

- "It was a big issue in Vancouver. It has to do with all of the surrounding lands that are used as a large basin to collect water. So if you lose trees or vegetation, it affects the flow of water."

Focus groups: mapping the systems

■ What do Calgarians think about stormwater?



Focus groups: mapping the systems

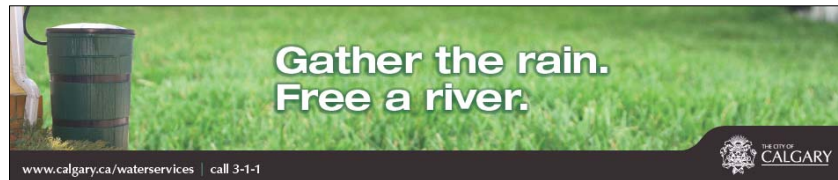
- What do Calgarians think about stormwater?



Key Research Findings (2006)...

- Calgarians are confident about the health and quality of City rivers, however express concern about the future.
- Calgarians' level of understanding about the stormwater system could be improved.
 - 58% say it is "treated" prior to re-entering City rivers
 - Not top of mind on a day-to-day basis
 - Need to address misconceptions
- Promoting stormwater friendly behaviours and providing information is key.
 - Few are taking steps to protect water quality
 - Once educated, Calgarians recognize the behaviours that impact the health of the rivers
 - A key barrier is a lack of understanding and information.

Education Programs



Use a broom and dustpan to clean your sidewalk and driveway, instead of hosing debris down the storm drains.

Wash your vehicle at a car wash not your driveway, to keep soapy water and dirt out of the storm drains.

Dispose of polluting materials like motor oil, lawn chemicals, etc., at a designated drop-off location. Call 3-1-1 for a drop-off location near you.

Actions you can take that make a difference in protecting our rivers are:

Learn more at calgary.ca/waterservices or call 3-1-1.

Protecting what's precious.
Land. Air. Water.

calgary.ca/waterservices | call 3-1-1

THE CITY OF CALGARY

Research to understand public perception of LID (2008)

- Are citizens aware of low impact development best practices?
- What are citizen understandings of vegetative swales, rain gardens and streetscapes?
- What are the concerns/barriers?
- What is citizen willingness or acceptance of maintenance related to these best practices?

Vegetated Swales



- ◆ Overall reaction to vegetated swales was lukewarm.
- ◆ Most agreed swales would benefit the stormwater system. But after pictures presented, reaction was quite negative.

"It's just a ditch. Are you kidding me?"

"How is that any different than a ditch? It's ugly."

- ◆ Discussions focused primarily on **the visual impact on a community**.



"I can see this just becoming a huge problem. It's going to collect blowing garbage, people are going to just dump bottles and whatever else in there."

"Well, it would be alright if that grass was cut shorter. Does it have to grow that long?" "Don't people get fined for having their front yards growing like this? So why on earth would I want this in my community?"

12

Vegetated Swales



- ◆ When pushed to discuss the potential location for these swales, most say that they would be ok with having them in their communities...**just not anywhere near their own properties.**

"I understand why they need them. So if they came into my community and told us that it had to be built, I'd support it. Just don't put it near my house."

"I have a corner lot and that is the LAST thing that I would want next to my house. But sure, you could put it somewhere else on my street."



- ◆ **Concern: Maintenance.** There is general confusion around maintenance. While some recognize the homeowner should be responsible, most feel that it should be The City who maintains the swales.

13

Rain Gardens/Streetscape

Images
Presented to
Participants



14

Rain Gardens/Streetscape



- ◆ First set of images presented were from Seattle. Overall reaction to this particular design was relatively weak, as many participants equated the visual impact to the vegetated swale. They felt this didn't enhance their community.

"It just doesn't look that nice to me."

"It's just grass and a bit of a ditch. It doesn't add much in terms of value to the front of my house or in my community."

15

Rain Gardens/Streetscape



"Wow, if it looked like this, I wouldn't have any problems at all!"

"This is really pretty – who wouldn't want this in front of their home?"

- ◆ Reaction to the rock-garden based streetscape was **overwhelming supportive**.
- ◆ This design was more aesthetically pleasing and added significant value to the appearance of the community.
- ◆ Most participants said they would welcome this type of development, **so** long as The City provided ample warning and community discussions.
- ◆ Many participants who liked this concept were **opposed to the name "vegetated swale"**. They **preferred the use of "rain garden"** as they felt it was less technical and much more appealing.

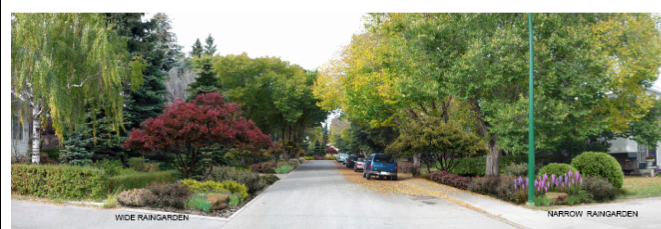
16

Key Research Findings (2008)...

- Participants understood the concept of stormwater
 - many had seen recent City campaigns
 - less likely to grasp the idea that swales/rain gardens/etc infiltrate and treat stormwater
- Streetscape seen as a benefit, but debated aesthetics
 - a preference of a rock-garden based streetscape come out loud and clear
 - preferred for a more manicured look
- Participants reacted negatively to the phrase “swale”
- There is an expectation by citizens they will be engaged prior to the installation of streetscapes, including expectations as it relates to maintenance

17

Proposed Streetscape Project



PROPOSED STREETScape CENTRELINE VIEW



EXISTING STREETScape CENTRELINE VIEW



A SUSTAINABLE STREETScape
DEMONSTRATION PROJECT IN
LAKEVIEW

**STREETScape
CENTRELINE VIEW
(PROPOSED/EXISTING)**

Engagement

- Door-to-door introduction of Streetscape by project team and Alderman
- Information session for stakeholders, including subject matter experts and Alderman
- Parking and perceived costs became a bigger issue than expected
- Petition to the Alderman, 70% opposed
- Streetscape did not proceed to construction

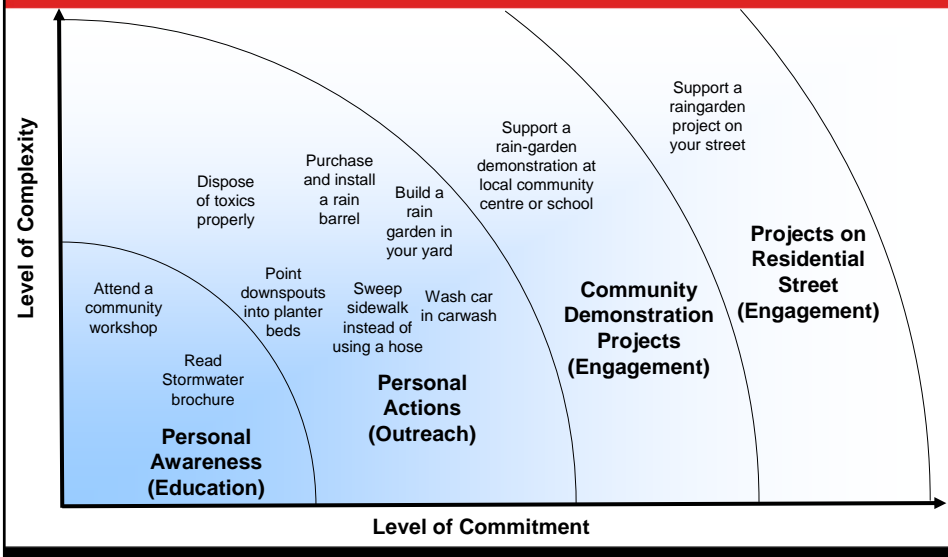


Key Learnings

- Education takes time and is essential
- Impacts on residents
- Demonstrate function of raingardens
- Acceptance by the majority of residents
- Time to build relations between The City & residents

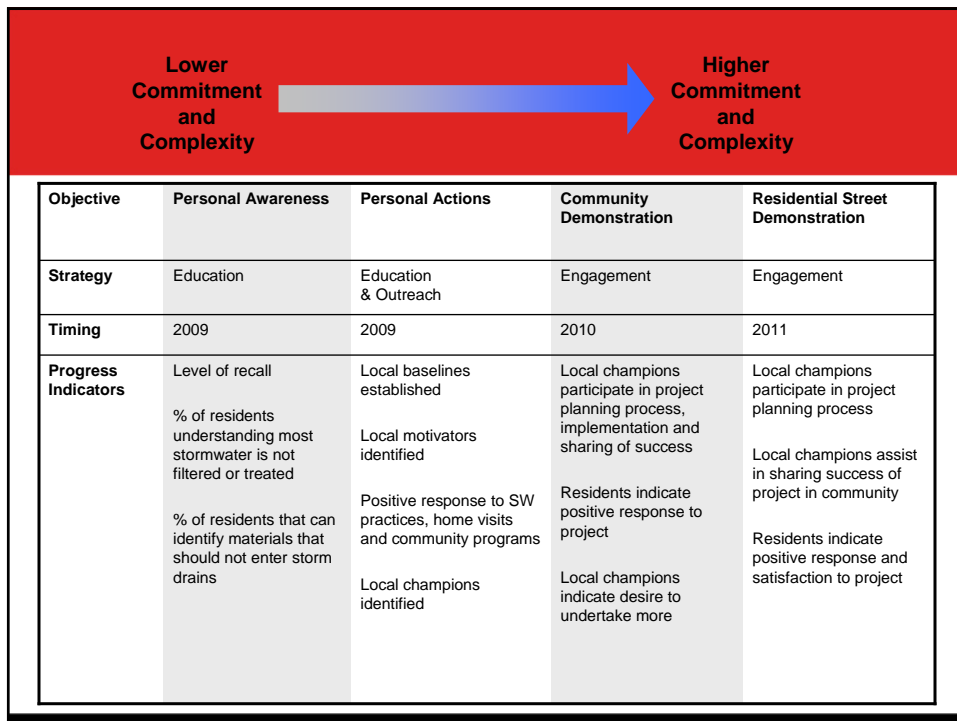
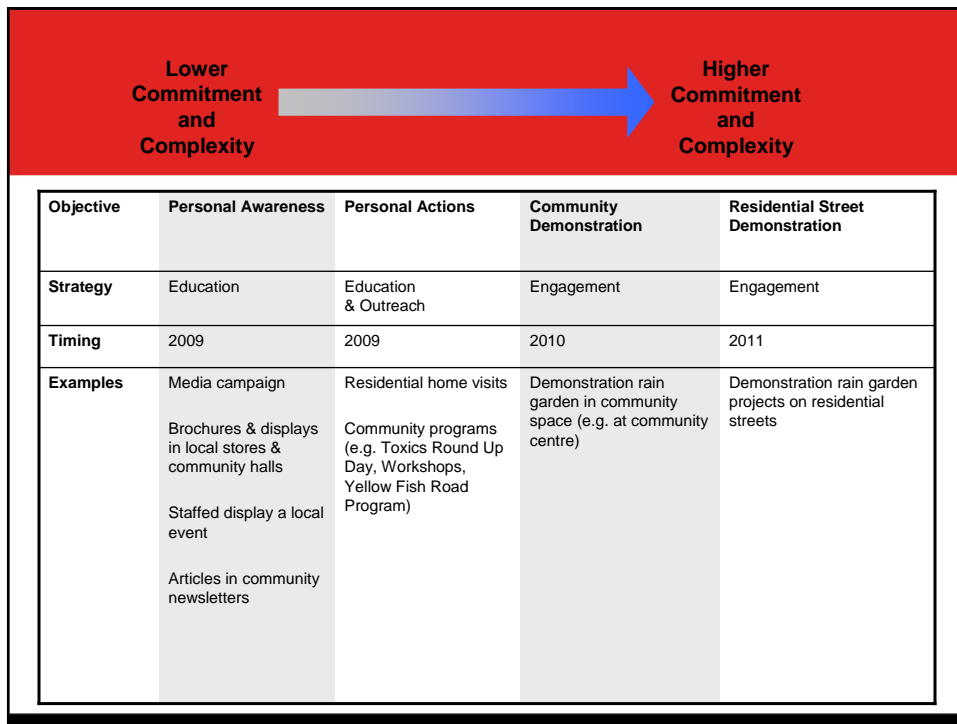


Personal and Community Changes Relative to Level of Project Commitment and Complexity



Strategy and next steps

- Key educational messages
- Establish relationships and gather information to adapt to localized conditions
- Increase resident confidence through phased implementation
- Smaller localized raingardens
- Enable residents to participate and create shared ownership
- Understanding resident barriers to raingardens and working to minimize these barriers

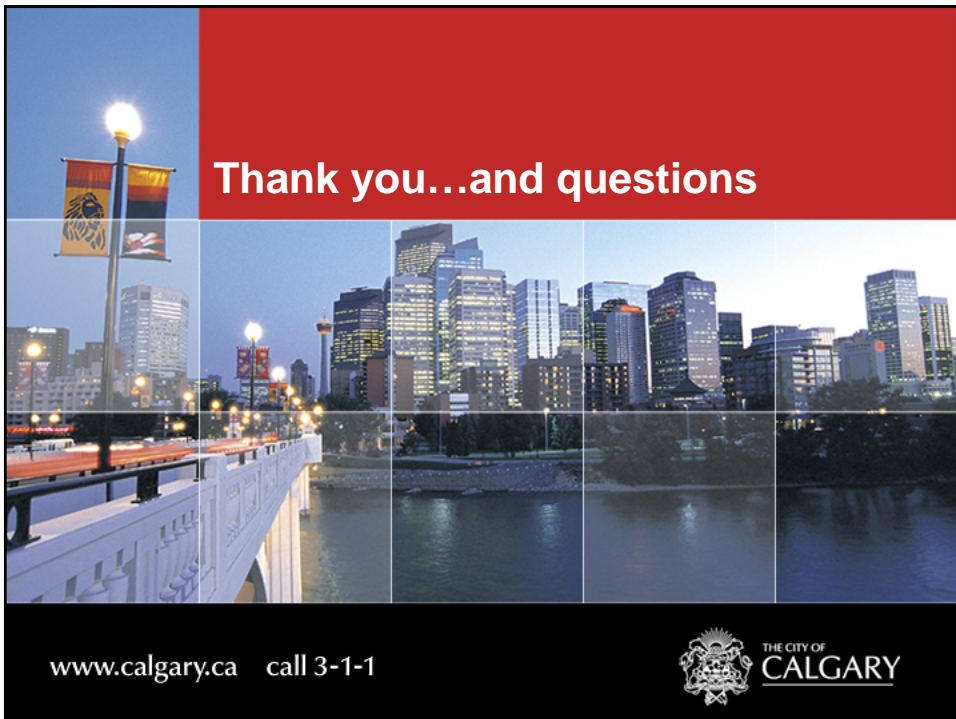


Summary... for success

- increase knowledge of citizens and participants
- create a connection for the participant and the street, river and watershed
- provide opportunity for direct experience
- offer opportunity for community participation
- work to build capacity within the participant and the community
- aim to change behavior and norms over time
- provide benefit to the utility and community
- incorporate evaluation

Adapted from Beeston, M (2008). Education for the watershed: successful approaches to engaging citizens.

Thank you...and questions



www.calgary.ca call 3-1-1

